



photo: Tisha Egashira

IslandWood, on Bainbridge Island in Puget Sound, so drenched by rain, collects that valuable resource to nourish gardens and feed the non-composting toilets.

BE OUTSIDE THE BOX AT ISLANDWOOD

Do you really need an excuse to participate in the IslandWood retreat June 27–30? We've planned a full slate of activities, posted at <http://www.sbse.org/retreat2007/>. To provide ample time to explore the green features of IslandWood, we've resorted to the "dumbbell" schedule—morning and evening sessions with lots of free time between lunch and dinner to explore and network. Bring your camera and your gift of gab! The campus is photogenic, and conversation will be lively. Space is limited; it's first-come, first-served, so register soon!

Need further enticement? Where else can you hear a Jersey Devil discuss design-build and Mithun Architects explain their design intentions for a green environmental education campus? Do you want to find out more about the connections between health and green architecture? Are you ready to join SBSEers in shaping NAAB criteria for sustainability and to provide the resources and training to realize the 2010 Imperative? Have you been pondering the role we can play in influencing architectural practice, and vice versa? Do you want to learn about other new green and carbon-neutral buildings near Milwaukee, in New York City, and at Judson College? Want to gain insight into seismic design and the interaction between real people and real buildings?

As usual there will be time to exchange teaching omiyage and to trade insights about teaching careers with our future teachers. IslandWood folk will provide excellent hospitality, and you can shed your carbon guilt for a few days' living and learning in a low-impact environment. Join 50 of your new or long-time best friends for the retreat. ▮

—Walter Grondzik, Bruce Haglund, Alison Kwok

P.S. Nearby Seattle has some sweet architecture to explore! You may want to plan for an extra day or two in the big city. Or, how about a cuppa or a Mariners' game?

SBSE CALENDAR

2007

- Apr 13–14 Passive Houses 2007; Vorarlberg, AU
- Apr 15–19 Engr Sust 2007; Pittsburgh, PA
- Apr 16–18 ARCC Conf; Eugene, OR
- Apr 19–22 HOPES Conf; Eugene, OR
- May 3–5 AIA Conv; San Antonio, TX
- Jun 27–30 SBSE Retreat; IslandWood, WA
- Jul 7–12 Passive Solar Conf; Cleveland, OH
- Jul 10 SBSE Annual Mtg; Cleveland, OH
- Jul 13 Tool Day; Cleveland, OH
- Sep 6–8 Greening 7 Conf; Muncie, IN
- Sep 14–15 TIA Conf; Krams, AU
- Nov 22–24 PLEA Conf; Singapore

2008

- Jul 22–23 TIA/SBSE Conf; Oxford, UK ▮

CALL FOR NOMINATIONS

It's an SBSE election year. Submit your nominations for President–Elect and/or Secretary/Treasurer to Judy Theodorson <jtheodorson@wsu.edu> before our July annual meeting where slates will be determined. Nominate yourself or a colleague. Ballots and electronic voting instructions will be distributed in the Fall *SBSE News* and via the list server. ▮

—Bruce Haglund

FULL RETREAT INFO: [HTTP://WWW.SBSE.ORG/RETREAT2007/](http://www.sbse.org/retreat2007/)

I wish to extend a very sincere thank you to the SBSE community. You, as always, were a great help as I thought about my content for the 2010 Imperative Teach-in Tuesday [All the presentations, including Chris', can be viewed on the Architecture2030 web site <<http://www.architecture2030.org>>.—ed.]. I have learned so much from so many of you over the past fourteen years. We are now facing a time in which our skill sets will be even more important! Let's rise to the challenge! ▮

—Chris Luebke, Arup

[Likewise, we've learned a great deal from you over the years. You were marvelous before the audience of half a million, and you've offered enriching internships at Arup for students and faculty alike. Thanks backatcha.—ed.]



image: 2010 Initiative web site

Chris Leubkeman in PIP action during the 2010 Imperative webcast. He and the other speakers can be heard again on <<http://www.architecture2030.org>>.

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Ed Mazria has said, "It's the architect, stupid." On the web cast he said, "It's imperative that schools of architecture change." Every studio problem statement must include, "the design engages the environment in a way that dramatically reduces or eliminates the need for fossil fuel." And, "by 2010, achieve complete ecological literacy in design education." Only the SBSE can make it happen.

The first of three speakers, James Hansen, said the sky is falling. Then Mazria said only designers can prevent the sky from falling, and it must be done by 2030. Last, Chris Leubkeman demonstrated the direction to take with good and bad examples of low-energy buildings.

The 2030 °Challenge asks the global architecture and building community to adopt these targets:

- All new buildings, developments, and major renovations are designed to meet a fossil fuel, greenhouse gas (GHG)-emitting, energy-consumption performance standard of 50% of the regional (or national) average for its building type.
- The fossil fuel reduction standard for all new buildings is increased from 60% in 2010 by 10% each decade until carbon-neutrality (using no fossil-fuel GHG-emitting energy to operate) is achieved in 2030.

SBSE must lead the way to make it happen. Our students will design those 2030 buildings.

Since the teach-in, I have been considering implementation. Clearly the studio process must change to embrace energy design strategies. Far too frequently, I'm invited to tell a studio "What a sustainable green building is." Generally we review the LEED check list and questions related to the studio problem. Usually the group is impressed by how easy it is to be green, but frustrated by the easy points' irrelevance to studio (e.g., four points for non-VOC/formaldehyde materials). Mazria has convinced USGBC that merely exceeding the energy code isn't sufficient. There are examples of studio problems that set carbon-neutral goals, see <<http://www.caa.uidaho.edu/arch553haglund/description.htm>> for a documented example. The third-year graduate class at NJSOA is offering a "sustainable studio." SBSE's web site could make the syllabi and results available. I have also insisted that all design solutions include daylighting distribution throughout the space, building integrated photovoltaics (BIPV), passive solar heating (for small buildings), and natural ventilation. You're welcome to add to or modify this list so all architecture students learn the strategies necessary to design carbon-neutral buildings.

Buildings must have BIPV to meet the 2030 challenge. Colin Cathcart has been doing such buildings for years. After his talk at NJSOA I asked him to point me to vendors. Amused, he said he designs, then issues a call for bids, and the BIPV materials are fabricated (e.g., 4 Times Square). Terri Boake's web site slides of the Lillis Building show BIPV glazing. Let's modify my preliminary list of design strategies at this year's retreat.

Mazria demanded two design tools—(1) "the box in the corner" to provide an energy design benchmark from Energy Star Target Finder versus the energy use of the building being designed and (2) an expanded BEES life-cycle assessment program. Should SBSE take a lead role in lobbying and promoting of these tools?

The call for "complete ecological literacy in design education" will require the integration of building science in the design studio. NJSOA is struggling with this paradigm for its upcoming accreditation that requires only "awareness" of sustainability. This contentious change must be an issue at all architecture schools. I'm preparing reading lists and follow-up class-wide lectures for each of the first four years at the request of the studio coordinators. Included will be chapter one, "Design Process" of Kwok and Grondzik's *GSH* [see page 4; read ch. 1!—ed.] and "Road Map for Natural Capitalism" (see <<http://www.rmi.org/sitepages/pid564.php>>).

I appreciate the opportunity to represent SBSE at the webcast. The dynamics at the origin were intense and motivating in a way that cannot be transmitted by a webcast. Area schools were invited to bring 20 people. Led by Dean Urs Gauchat, we brought about 130. Being part of the "show" and chatting with the speakers created motivation to act and accept the "challenge." ▮

—Erv Bales

THE TOOLS ARE ALREADY HERE

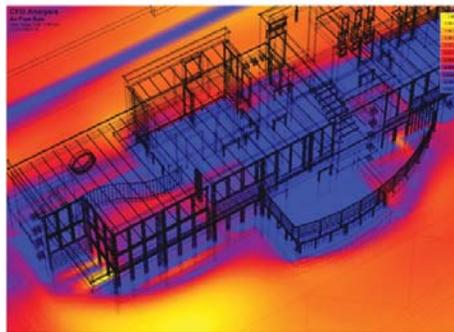
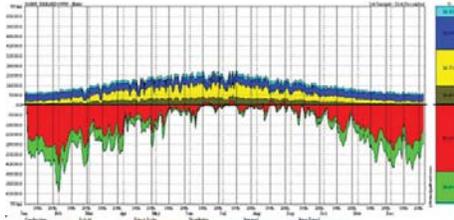
[Ed Mazria has asked for a performance feedback box for CAD tools. Dominic Gallelo, CEO of Graphisoft, declares that the tools exist.—ed.]

Today's Virtual Building (BIM) technology already allows architects to visualize, analyze, and optimize their designs, even during the earliest design stages, without having to make each new project an expensive experiment. The tools available on the market that work in conjunction with building modeling tools to support the green evolution include:

- ArchiPHYSIK <<http://www.archiphysik.com>> has been used to analyze energy efficiency in building design for 11 years and has been directly integrated with architectural 3D models for 5 years. According to Johann Riegler, Managing Director of A-NULL EDV GmbH, Austria, the creator and developer of ArchiPHYSIK, "Europe is still an early adopter market in terms of using computers to perform energy simulations, but the 2006 European Directive will force all designers to calculate the energy performance of buildings. Then it will become mainstream across Europe."
- Green Building Studio (GBS) <<http://www.greenbuildingstudio.com>> President and CTO John Kennedy is a key figure in the United States' drive toward building energy efficiency. He rightly points out that, "An architect who is not learning and practicing sustainable design will soon not be qualified to work on a lot of projects." GBS is a web service that provides immediate energy analysis results within Archicad <<http://www.graphisoft.com/community/education/downloads>>.
- Ecotect <<http://www.ecotect.com>>. According to Andrew Marsh, co-founder of Square One and an architect by training, "Designing energy-efficient buildings is an ethical responsibility. If the client's desire to save a small amount of money on construction costs is going to result in a significant energy cost (in this case a 'societal' cost) over the full 80–100-year life of the building, it is the architect's responsibility to ensure this does not happen."

Both small and large projects can benefit greatly from energy simulation (currently the exception rather than the rule) in the early and detailed design phases. Here are some recommendations for a practicing architect to stay competitive in the upcoming green revolution:

- Grow into new simulation programs over time. Look for recent graduates who have the aptitude and interest in using these programs. For those who will never grow to use them, become capable of providing the data necessary to run the simulations and learn to interpret the results.
- Do your simulations at the conceptual design stage so you have time to make modifications for optimizing the energy efficiency of the building.
- Read about sustainable design and which tips and tricks you can employ to keep buildings warmer in the winter and cooler in the summer without additional energy consumption. A good place to start is the World Green Building Council web site <<http://www.worldgbc.org>>.
- Develop an understanding for energy-efficient building components and attempt to specify them as much as possible in your designs.
- Nurture a relationship with an engineer who employs advanced energy simulation software. Be very good at generating the necessary inputs so it is easy to run analyses of your designs.
- Market your new-found skills. Architects don't normally appeal to clients with an energy competence message. It's time to do so!



Ecotect can display the results of thermal analysis both by use over time (above) and spatially integrated with building form (below).

NEW ADVANCED DEGREES

The Lighting Research Center (LRC) at RPI has extended the deadline for applications for its expanded graduate programs, which offer a wide range of degree options. Candidates from a variety of backgrounds, including architecture, engineering, science, and related disciplines may apply. In addition to the two-year Master of Science in Lighting degree, a leading degree program in the field, the LRC offers master's (nine-month) and doctoral degrees in architectural sciences with a concentration in lighting.

This new two-semester, 30-credit Master of Science allows people with experience in the lighting industry or lighting design profession to attend a concentrated, multidisciplinary program in lighting research and design, opening the door to higher education in lighting to more people.

The Ph.D. in architectural sciences with a concentration in lighting, one of the first interdisciplinary doctoral degrees at a major university in the field of architecture, includes formal courses in the physics of light, lighting technology, design, research design, and human factors in lighting. It also allows students to concentrate their research in a particular area of interest. ■

—Keith Toomey

TOOLS ARE HERE [CONT.]

- Consider starting your projects in 3-D from the beginning. A virtual model linked to software assessing building energy efficiency can lead to improvements in the overall design.

Sustainable design is a trend with no end in sight and has great potential. The world's energy needs may grow over 50 percent by 2025 to a staggering 623 quadrillion BTUs. There will be good times ahead if we can face the energy challenge. ■

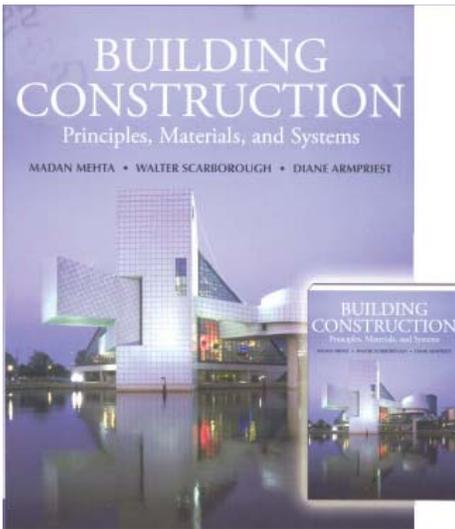
—Dominic Gallelo



Why does the facade of the Scottish parliament in Edinburgh look like a bunch of Rayteks?

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Prentice Hall has just published *Building Construction: Principles, Materials, and Systems* co-authored by **Diane Armpriest**.



cover: Prentice Hall

ARCC announced the 2006 ARCC James Haecker Award for Distinguished Leadership in Architectural Research awardee—**Harvey Bryan**. He will give the Haecker lecture, “Lessons from Research to the Classroom to Practice” at the 2007 ARCC Research Conference in Eugene.

Eddie Cazayoux has been elected Fellow in AIA for advancing the science and art of planning and building through architecture education, training, and practice and will be invested on May 4 at the Alamo during the AIA National Convention in San Antonio.

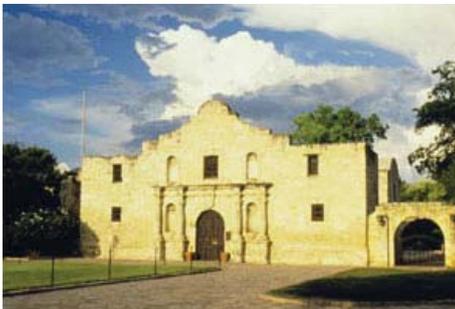


image: AIA web site

A Davy Crockett moment for Eddie? Hope not!

Robert Marcial has been promoted to director of the Pacific Energy Center in San Francisco. [Stand by for some SBSE web page delays as he writes the book on survival of directors.—ed.]

THE GREEN STUDIO HANDBOOK

The Green Studio Handbook: Environmental Strategies for Schematic Design, recently published by Architectural Press, is another excellent book by two SBSEers—Alison Kwok and Walter Grondzik. This long-needed tome is immensely helpful and really fills a gap—books appropriate for beginning green or sustainable design students. Moreover, it should also be helpful to architects and faculty. “An excellent resource for both educators and practitioners,” said Karol Kaiser, U.S. Green Building Council Director of Education.

This book presents highly technical information in simple language. It brings together most of the issues undergraduate students need to know in order to design high-performance buildings. It is a combination of design manual and reference book for environmental performance of buildings.

The *GSH* gives a thoughtful introduction to the concept of “integrated design” as an approach to designing environment-friendly architecture. Then in chapter four it addresses a number of green strategies—envelope design, lighting, heating, cooling, energy production, and water and waste. This chapter covers design techniques that range from passive heating to hydrogen fuel cells. The chapter’s user-friendly format and meaningful structure help Kwok and Grondzik present a wealth of information that students direly need to fully understand ways to incorporate green ideas—means to save energy, water, and materials—into their schematic efforts in the design studio. Each strategy includes a description of principle and concept, suggestions for integrating the strategy into building design, methods for preliminary sizing (if any), and references to applicable standards and guidelines.

In the end, chapter five, presents nine case studies of high-performance buildings that cover diverse geographic locations, climates, building types, and strategies. Each case study building is thoroughly described and explained in a consistent format. Throughout the book, data are presented in visually-pleasing and easy-to-read graphic formats. Color photos add charm to the book and make it one of the best in the field.

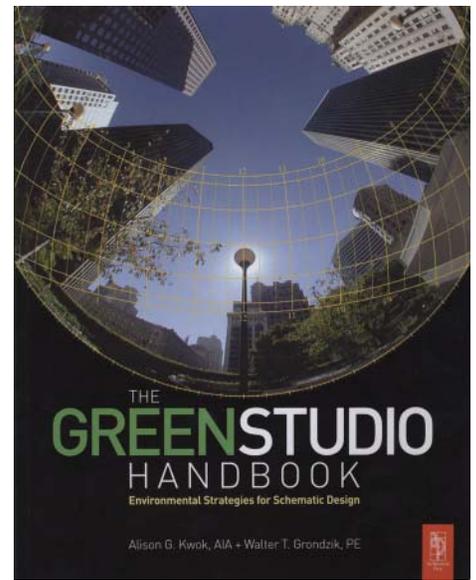
—Khaled Mansy

YOUR GREEN HOME

The recent increase of public interest in green design was driven home to me last month when my grandmother initiated a telephone conversation about passive solar design. A how-to television series on green residential design had captivated her completely and now she talks of building her own green home. Accompanying the growing numbers of prospective homeowners who aspire to minimize their impact on the environment is an increasing flow of information as well as misinformation. The breadth of topics and complex decisions involved can be daunting. Alex Wilson, executive editor of *Environmental Building News*, has come to the rescue of the well-intentioned future homeowner with a new book, *Your Green Home: A Guide to Planning a Healthy, Environmentally Friendly New Home* (New Society Publishers, paperback, 238pp. \$17.95).

Wilson’s presentation of green residential design is both concise and thorough. He covers the information most pertinent to the selection of a structural system, for example, in language that is easy to understand. Illustrations present key details such as the most energy-efficient spline design for structural insulated panel connections. This book is a guidance counselor rather than a teacher, presenting the advantages and disadvantages to available options rather than providing do-it-yourself instructions. The presence of a few gaffs—an illustration of non-

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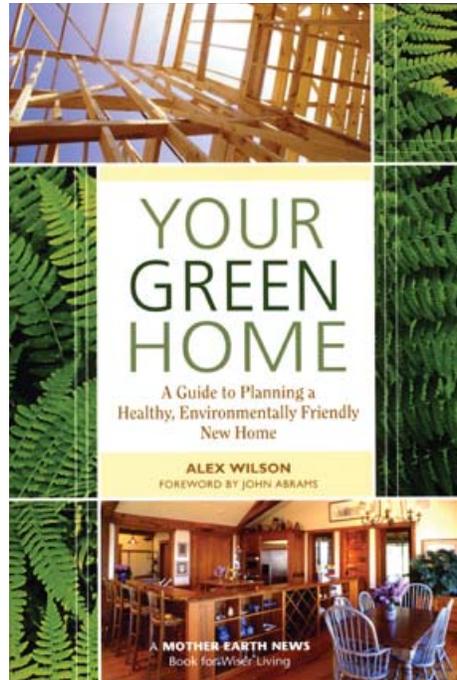
cover: Architectural Press

INTERNATIONAL SCENE

aesthetically pleasing design used as a chapter header; the word “natural” preceding the word “daylighting”—is easily outweighed by the breadth and legibility of content. An example from the glossary: “Vapor diffusion: Movement of water vapor through a material; water vapor can diffuse through even solid materials if the permeability is high enough.” Wilson offers direct explanations of concepts and their relevance to green design.

With its clear and compact presentation, *Your Green Home* may be a helpful reference for residential design studios or design-build studios, or a useful supplementary text for courses that address sustainable design. Students who have gained familiarity with the book will enter the working world armed with an excellent means for client education. I plan to have at least four copies on my bookshelf to loan to friends, family, and clients alike.

—Amelia Thrall



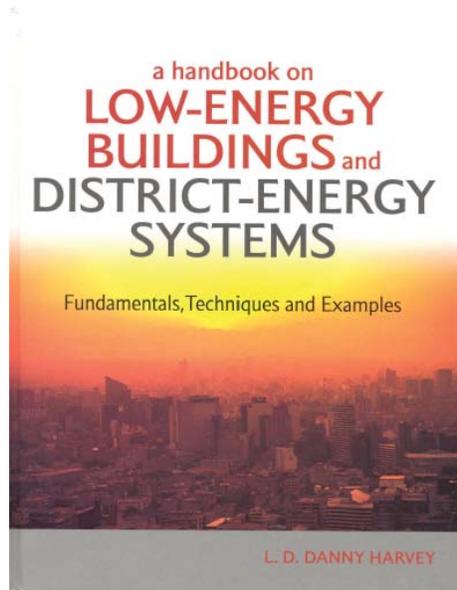
LEB-DES

A Handbook on Low-Energy Buildings and District-Energy Systems, by L. D. Danny Harvey, Earthscan 2006.

The title doesn't roll off the tongue and *LEB-DES* is hardly a suitable acronym for this essential reference. The book is encyclopedic in describing all manners of energy use in buildings from components such as electric lamps to systems such as community-integrated energy systems. Writing from the perspective of a climate scientist trying to discover if the technology necessary to reduce global carbon emissions by the required 80% exists, the author examines the advantages and disadvantages of the full array of components and systems described from simple passive systems to complex mechanical systems. The thorough research and candid presentation is commendable. I've placed my copy next to *MEEB X* as the other comprehensive and reliable source of building energy use information.

After careful study, Harvey concludes, “Most of the technologies needed to achieve levels of energy use in buildings consistent with sustainability and with stabilization of atmospheric CO₂ at 450ppm already exist and are well understood, at least in some jurisdictions.” He cites the fragmented design process, lack of will, and lack of communication as the primary barriers, so that “... without a committed client, architects and engineers will usually not undertake the additional design effort required to produce low-energy buildings.” We're seeing those barriers breaking down, and this book can play a significant role in accelerating a more favorable outcome. ▮

—Bruce Haglund



PASSIVE HOUSES 2007

We are pleased to invite you to the 11th international Passive House conference, **13–14 April 2007**, in Vorarlberg, Austria. The conference will take place in the Festival House in Bregenz on Lake Constance and is organised jointly by the Energieinstitut Vorarlberg and the Passive House Institute. More than 700 participants from all over the world are expected to attend. On Sunday, 15 April 2007, an excursion to state-of-the-art passive houses is scheduled. The conference will also be accompanied by a special exhibition on passive houses, held in the studio theatre of the Festival House. Full information in English is at <<http://www.passivhaustagung.de>>.

—Magdalena Marg–Jenny

TIA CONFERENCE 2007

We kindly call your attention to the Teaching in Architecture (TIA) Conference, **14–15 September 2007**, at Danube University in Krems, Austria. The event will focus on theories, methods, and best practices for teaching sustainability in architecture. Full conference info is available at <<http://www.donau-uni.ac.at/en/departament/baueumwelt/veranstaltungen/09521/index.php?URL=/en/departament/baueumwelt/tia/09521>>.

We would be honored to welcome you to Krems this coming autumn.

—Renate Hammer

SUN, WIND, AND ARCHITECTURE

The Department of Architecture and the Centre for Total Building Performance of the Department of Building, National University of Singapore, are committed to environmental sustainability in architecture and planning. We are pleased to host the 24th international conference on Passive and Low Energy Architecture (PLEA) from **22–24 November 2007**, in Singapore.

We invite experts from academia, professional practice, and industry from around the world to share their expertise within a larger international community. PLEA 2007 welcomes contributions in all areas of passive and low-energy architecture, with special emphasis on the conference theme, “Sun, Wind and Architecture.” More info at <<http://www.plea2007.org>>. ▮

—Stephen Wittkopf

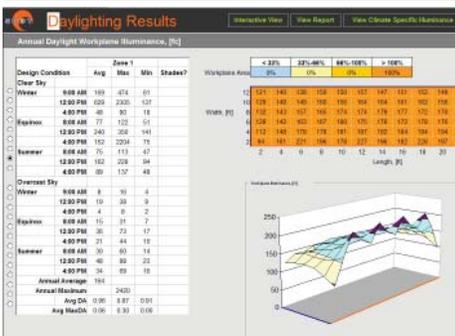
STUFF FOR YOU

NEW HEED VERSION

We have just posted a new version of HEED (Home Energy Efficient Design) at <<http://www.aud.ucla.edu/heed>>. This one will be our last posting for a while, at least until we receive funding for a new version. Even so, if you have suggestions for features we should add to our next release, please let us know. We'll hold a HEED workshop at ASES on Sunday, July 8, 1:30-5:30. Register through ASES.

—Murray Milne

SPOT™ VERSION 3.1 RELEASE

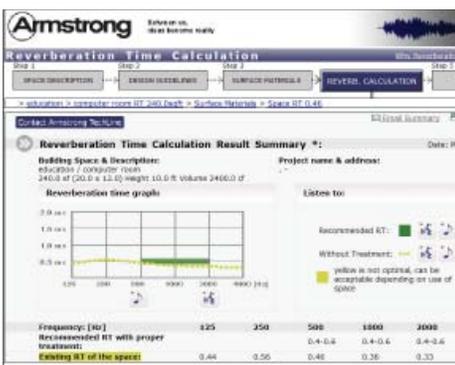


SPOT™ daylight screen

The Sensor Placement + Optimization Tool or SPOT™ software is intended to assist a designer in quantifying the existing or intended electric lighting and daylighting characteristics of a given space and to help establish photosensor placement in the space to optimize annual performance and annual energy savings. You can download SPOT <<http://www.archenergy.com/SPOT/>> or order a CD-ROM by e-mail from <SPOTSUPPORT@archenergy.com>.

—Judie Porter

INTERACTIVE T_R CALCULATOR



Armstrong summary screen

Try Armstrong Ceilings' free, five-step On-Line Reverberation Time Calculator <<http://www.armstrong.com/reverb/main.jsp>>. In addition to the calculations, it compares performance to recommendations for the type of space, as well as audio demonstrations of the recommended and calculated T_{Rs}.

—Bruce Haglund

RESEARCH FINDINGS

SAD LIGHTS FOR A HAPPY WINTER SEASON

Moji Navvab recently received a grant from Full Spectrum Solutions, Inc. of Michigan, to establish and operate his Enhanced Spectrum Laboratory (ESL). The mission of the ESL is “to advance the application of efficient lighting technologies through research, education, and outreach.” Since lighting accounts for nearly one-fourth of the nation’s electric energy consumption, more efficient fixtures have tremendous potential for conservation. The ESL offers great opportunity to establish a facility and infrastructure to design, demonstrate, and test the efficient use of light sources such as fluorescents and LEDs for residential, commercial, and industrial applications in a controlled setting. The lab allows for accurate measurement of lighting systems’ power and light output, not always possible on site, as well as providing excellent technical support to lighting designers.



photo: Moji Navvab

One of the photovoltaic-powered LED street lamps being tested on the Michigan campus and in Ann Arbor.

The laboratory will allow for full-scale simulations and computer modeling for demonstration of actual lighting applications, thus increasing the knowledge base for lighting practitioners and promote user acceptance and market transformation. Research at the lab will identify and develop new, more effective, and more efficient lighting technologies that address most architectural applications with electric and daylighting demands and advance market awareness and acceptance throughout the lighting industry.

Major claims of the benefit of the full-spectrum light sources used in light therapy boxes, based on surveys of lighting specifiers and designers, have included improvements in mood and visual comfort, better therapy for sleep disorders, better color perception, and treatment of the Seasonal Affective Disorder (SAD). Currently, we’ve designed a special portable fixture for SAD applications and a high-bay lighting system for large industrial applications. One SAD task light is being used by 430 architecture students (who put in many late night and early morning hours) in our design studio on the third floor. The special blend of phosphors used in these lamps provide the best of two worlds, high CRI (96) and the full spectral power distribution impact on the circadian rhythm during light therapy (keeping awake without taking any special medicine or drinking coffee). The second prototype light is being produced by a manufacturer in China and will be ready for sale as part of market and technology transformations based on our studies during winter term. A database of visual comfort and the evaluated architectural light characteristics



photo: Moji Navvab

Full-spectrum task lights populate the desktops in Michigan’s third-floor design studio.

of the top 20 light boxes has been developed to show relative effectiveness and safe application at recommended exposure distances, intensity, and correlated color temperatures.

“By partnering with the industry and UM’s utilities, the ESL ensures a hands-on, practical approach to creation of an energy-efficient lighting system that is also appealing to consumers,” Navvab said. “The ESL holds great promise for sharply reducing the power consumed by lighting during peak use of electricity at the university.” The use of LED lights with and without the use of sun power for exterior lighting in our campus is being tested, and the city of Ann Arbor has made the decision to use these newly developed sources downtown. With its stated goal of

• continued next page

CLEVELAND TOOL DAY

Building on last year's success, we're once more holding Tool Day as an official ASES workshop on Friday, July 13 [*Nam, we're not worried!—ed.*]. You'll have to sign up for Tool Day via the ASES registration process, see <<http://www.ases.org/solar2007/>>.

Tool Day is scheduled as a day-long investigation (9a–5p) of the Cleveland Environmental Center (CEC), housed in a green adaptive reuse of an old bank. Since the CEC at 3500 Lorain Avenue is an easy 5-minute walk from the West 25th Street rapid transit station on the Red Line, we expect participants to take the carbon advantage of transit and a hike over to the center. If you can, bring your laptop and/or your digital camera. We'll provide handheld instruments for the day and guidance in your chosen mini case study of the building's performance. For full info on and a taste of Cleveland Tool Day in addition to the fun and results of its predecessors, see <<http://www.sbse.org/toolday/>>. ▮

—Walter Grondzik and Bruce Haglund



Sited on a park (above), CEC's old banking hall is a daylighted space that invites investigation.

HOW LOW CAN YOU GO?

ASHRAE has been sponsoring a series of symposium papers on 'How Low Can You Go? Case Studies of Low-Energy Buildings.' With 5 papers in process for Long Beach and 4 papers presented at the Dallas meeting in January, we now have almost 20 papers for this 4-meeting symposium series. But we are looking for papers that include measured energy-savings data—either utility bills or sub-metered data—for New York (2008) and beyond! We have 70 reviewers just waiting for your paper. If you have a building that you'd like to write up for the New York or a later ASHRAE meeting, please let me know ASAP. To meet the deadlines for the January 2008 New York meeting, the final papers must be submitted by mid- to late-March for review, revision, and final submission to ASHRAE no later than 15 July 2007. If you cannot meet the deadlines for New York and would like to try for a later symposium (Salt Lake City, June 2008; Chicago, January 2009; or Louisville, June 2009), please let me know <Drury.Crawley@hq.doe.gov>. As long as we continue to receive enough high-quality papers, we'll keep this series going. ▮

—Dru Crawley

OLD HOBO NEWS

For folks with legacy dataloggers [*the non-USB ones—ed.*], you can now get the BoxCar Pro software demo from our main web site <<http://www.onsetcomp.com>>. The HOBOWare.com site will be decommissioned soon as its primary reason for existence was to support our dealer network that we'll now accomplish through the main web site. We've posted all the BoxCar demos in a manner similar to the HOBOWare demos (i.e., in the context of the text discussing each single issue for the product—launch, readout, or analysis). ▮

—Gregg Daly



This self-sufficient potter's studio in Nachotta, WA, epitomizes the concept of site-generated energy—PVs and a wind turbine to run the lights and kiln, as well as effective shading.

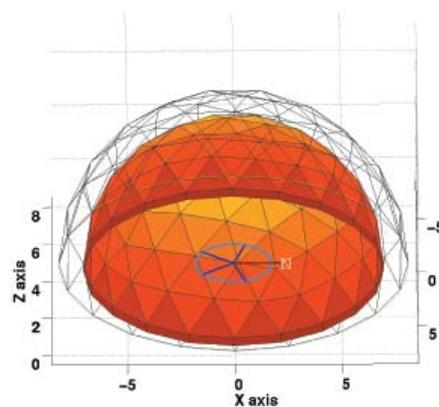
RESEARCH FINDINGS [CONT.]

educating students, practitioners, manufacturers, and the general public, the ESL is a unique educational and applied research program pursued in a dedicated, industry-friendly facility.

—Moji Navwab

DOUBLE DOME SKY

Oklahoma State University is building a 16'–4" diameter, artificial sky dome that will be used as a daylighting laboratory open to researchers, students, and practicing architects. SBSEer Khaled Mansy obtained funding for this new lab from the National Science Foundation in 2003. Currently, a team of three professors and two students are working on the design and construction of the lab. Its design consists of three major components, from inside to outside, a heliodon to simulate the sun component, a geodesic translucent dome to simulate the sky/diffuse component, and an open-frame geodesic dome that supports 341 lamps, controlled electronically to simulate different sky luminosity distributions. The lab, now near completion, will simulate both clear and overcast sky conditions. ▮



Modeled in 3-D, the dome's design is seen from below.

—Khaled Mansy

RUSTIC REFECTORY?



photo: Tisha Egoshira

The dining hall at IslandWood offers a convivial space to debate the retreat's hot topics while supping on the fresh foods of the Northwest.

RETREAT HOT TOPIC

SBSE AND THE 2010 IMPERATIVE

The 2010 Imperative <<http://www.2010imperative.org>> calls on the academic design community to adopt the following initiatives:

1. Beginning in 2007, add to all design studio problems [a charge] that: "the design engage the environment in a way that dramatically reduces or eliminates the need for fossil fuel."
2. By 2010, achieve complete ecological literacy in design education (including studio, theory, materials, technology, structure, construction, pro practice, etc).
3. By 2010, achieve a carbon-neutral design school campus.

Given the experience and diversity of SBSE, we're uniquely positioned to help our members and other design educators address global warming through carbon-neutral and zero-energy/zero-emission design. Tangible design strategies, tools, and teaching resources are needed if architectural programs and design educators are to address the ambitious goals of the 2010 Imperative. The working session at the retreat will investigate the proposed "teaching resource initiative" for zero-energy/zero-emission design (ZED) to enable educators to better address 2010 and carbon-neutral design. After a brief introduction to the teaching initiative and the 2010 Imperative, a small-group working session, a small-group pin-up, and a full-group discussion will be used to devise a work plan and the necessary next steps to develop SBSE curriculum resources for the 2010 Imperative and Zero-Energy/Zero-Emission Design and deliver:

1. A list of teaching resources needed to address the 2010 Imperative and ZED.
2. Strategies to develop, share, and distribute teaching resources for 2010 and ZED.
3. A draft work plan for next steps (goals, timeline, participants, and strategic plan). ▮

—Mary Guzowski and Marc Schiler



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